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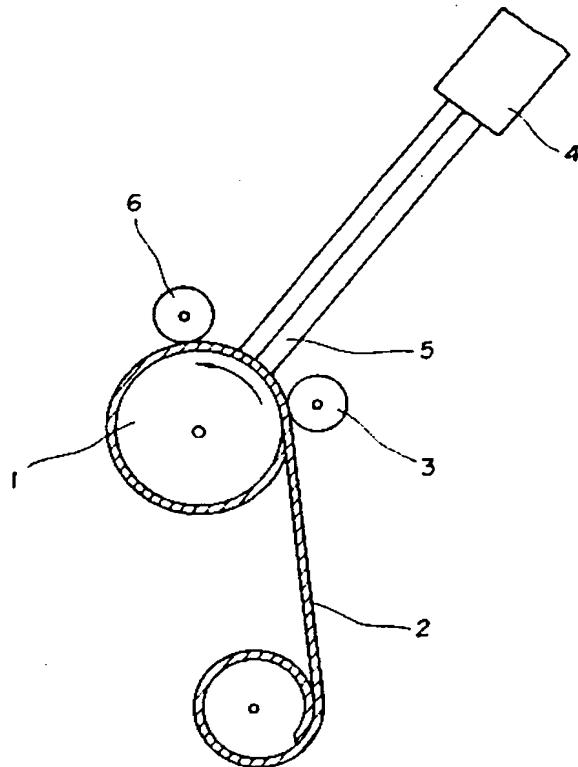
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TITLE : PRODUCTION OF WEAR RESISTANT ROLL



ABSTRACT : PURPOSE: To produce the wear resistant roll of long service life and free from exfoliation by winding a wear resistant metallic strip around a revolving mother material and projecting a high energy beam to melt the base material of wear resistant metallic strip to integrate with the surface layer part of the mother material.

CONSTITUTION: The wear resistant metallic strip 2 is wound through a guide roll 3 around the mother material 1 revolved with a specified velocity. The wear resistant metallic strip 2 is so formed as to homogeneously disperse a large amount of particles of high hardness, such as  $\text{Al}_2\text{O}_3$ , in the base material. Then, the high energy beam 5, such as laser beam, electron beam or plasma, is projected to the wear resistant metallic strip 2 on the mother material 1 from a high energy beam generating device 4. The surface layer part of mother material 1 and the base material of the wear resistant metallic strip 2 are melted by the energy of the beam 5, and then cooled and solidified by a cooling roll 6 to be integrated. By this method, the wear resistant roll homogeneously dispersed with the particles of high hardness in the surface layer part of the mother material 1 is obtained.

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